ORIGINAL

DOCKET FILE COPY ORIGINAL

September 12, 1997

Mr. William Caton, Acting Secretary
Federal Communications Commission
1919 M Street, N.W.
Washington, DC 20554

WT DOCKET NO. 97-253

RECEIVED
SEP 22 4 29 PM '97

Subject: Requested comments on ~~FCC 97-239~~
Specifically: Safety Alerting Signals at 24 Ghz

Dear Mr. Caton:

I am pleased with the Commission's decision to support the 24 Ghz Traffic Warning System. It has long been my belief that a percentage of drivers must be alerted to conditions from inside their vehicle and this approach provides a system to do so. It can be tailored for a proper alert time and is easily installed and operated. Simply an excellent approach to achieve the desired results.

Requested comments on 97-239-II paragraphs 8 through 12.

Paragraph 10. "Local government agencies would install the transmitters." This significantly restricts the system.

1. Road repair, including bridges, should allow the transmitter to be on the equipment. Then a transmitter alerts a driver when approaching an area where the work is being performed in that "Next 7 Miles of Construction". Therefore, contractors should be allowed safety transmitters.

2. Railroad Crossings. The majority of railroad crossings are unguarded and without power. Guarded crossings only require a transmitter when a train is present. Therefore, have the transmitter mounted on the train's engine. Unguarded crossings are now guarded and drivers are alerted at guarded crossings that a train is really approaching rather than just gates are down and lights are flashing. Railroads should be allowed safety transmitters.

3. School buses need a transmitter that activates when the stop arm is extended. I don't believe a school district is defined as a government agency.

4. I assume "accident" is one of the hazardous areas expressed in this paragraph.

Paragraph 12. The extremely stable transmitter frequency requirements will probably eliminate any possible receiver interference. A critical design requirement considering temperatures of -40C (winter, evening, northern US) to 65C (summer, daylight, bright sunshine, southwest US).

General comments.

1. The term "unattended" needs to be defined so certain transmitter operators do not require licensing. Police and Fire personnel should be licensed since their transmitters may possess multiple operational modes - emergency vehicle, accident, fire, flooding, etc; while school bus operators are only extending the stop arm.

2. Your professional approach should extend to the system specifications although this may be more in NHTSA's area. The following is my suggested steps for the creation of a system specification.

0

2a. Determine the alert time. This time should be based upon a driver's minimum attention span prior to turning off the receiver. Experience indicatesa 30 - 35 second maximum alert time is desired. Obviously this time is city environment: 30 mph. The open highway alert time becomes 13 - 15 seconds at 70 mph. These times are for ambient environment and level terrain.

2b. Specify radiated power and receiver sensitivity to achieve alert time. Close cooperation with and input from potential equipment manufacturers is required. Previous experience with claims about police radar concludes emphasis be placed upon a high receiver sensitivity and a corresponding reduction in radiated power. Radiated power is defined as the power "Measured at beam center one centimeter from the antenna/lens".

2c. Specify tolerances. A known alert time for each and every encounter is required. The professional approach in paragraph 12 should also be applied here with radiated power having a 3% tolerance and receiver sensitivity having a 1.5 dbm tolerance. Now the effects of changing environments can be determined; especially the attenuation factor of rain.

Thank you for permitting comments.

Personal history in this field:

A. Development engineer on microwave system for 1st self contained homing missile (Talos).

B. Project engineer on Typhon missile program (became Standard) in both microwave transmission/reception and microwave stripline development.

C. Developer of law enforcement moving radar, Decatur MV715 and MV724. Both X band and K band.

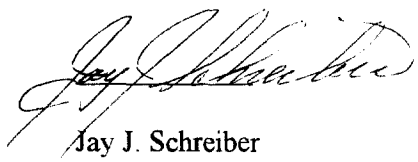
D. Contributor to Proposed Federal Standards on Police Radar (NHTSA) working with Mr. Trudeau and Mr. Miller.

E. Awarded patent for moving radar 3rd input (speedometer).

F. Consultant to Florida in the development of state radar specifications.

G. Multiple queries by both NHTSA and FCC for my opinion on regulations and equipment characteristics. One was for input to establish the requirements for law enforcement radar operating at 24.15 Ghz.

Respectfully submitted:



Jay J. Schreiber
112 Hawthorn Drive
Villa Grove, IL 61956